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While foreign cookbooks are accessible to all readers of foreign languages, and American ones have borrowed from them for what we know as "French cookery," it is difficult often to judge the real value of a dish, or decide if experiment in new directions is worth while. The recipes in the following chapters, prepared originally for *The Epicure*, of Boston, were gathered slowly, as the author found them in use, and are most of them taken from family recipe-books, as valued abroad as at home. So many requests have come for them in some more convenient form than that offered in the magazine, that their present shape has been determined upon; and it is hoped they may be a welcome addition to the housekeeper's private store of rules for varying the monotony of the ordinary menu.

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1793

A Popular Treatise on Mouth-Breathing:

ITS CAUSES, EFFECTS, AND TREATMENT.

BY

FRED. A. A. SMITH, M.D., C.M. GLAS.,

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CHELTENHAM (ENG.) EYE, EAR, AND THROAT INFIRMARY, ETC.

TO WHICH IS ADDED,

AN APPENDIX ON OPHTHALMIA IN NEW-BORN
CHILDREN,

By DR. SMITH AND DR. SWAN M. BURNETT.

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P R E F A C E.

THE idea of writing this little work was first suggested to me by having so many children brought for consultation who were the subjects of long-standing and progressive disease,—for the most part susceptible to relief, but in too many cases almost past amelioration, and still more often beyond cure.

Mothers or others in charge of them, when told the causes of their children's ailments, have almost invariably exclaimed: “Why was I not told this before? Had I only understood the case as you put it, I should certainly have brought my child years ago to be properly treated.”

It is for the purpose of showing parents the danger of allowing the diseases treated of in this book to run their course that it has been written. I only hope and trust that the following pages may be the means of saving many children yet to come. If only I could be sure that even a few would be thus saved a life of comparative misery and uselessness, I should consider that I had not labored in vain.

PORLAND HOUSE, CHELTENHAM,

August, 1892.

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MOUTH-BREATHING.

CHAPTER I.

INTRODUCTORY.

By supplying information and giving advice, I desire to be of real assistance to all (especially to those who are in particular need of such instruction and aid) respecting a matter which is most important to the health of the community; namely, proper and improper methods of breathing, and their bearing upon health and disease.

My special experience in an institution for the separate treatment of diseases of the eye, ear, throat, and nose, has impressed upon me the conviction that some simple, clear explanation of the facts of the case, and of the true remedies, ought to be circulated most extensively among the people; so that the ignorance which is largely responsible for the present sad state of things may be removed,

and that at least it may be possible for the people to act with increasing intelligence by reason of knowing more than they have ever yet known respecting what they should do and what they should avoid.

The best remedies for great ills in all departments of life are often amazingly simple. Foolish people have desired to be saved by long words, technical obscurity, and mystic pretensions ; whereas the true deliverance has ever been through the simple, the natural,—that which is within the grasp of all. So in medicine and surgery : as we become more enlightened we develop methods of treatment which are simpler, more natural, more effective than the days of ignorance could possibly know.

A medical man must take the people into his confidence, spread useful knowledge, and thus address himself to the task of eliminating causes of disease and disorder, and not simply aim at the palliation or transference of symptoms.

I am conscious that in this work there is much reiteration, or repetition. This is designed, and will have its great utility. Most

persons are unable to take anything in,—especially any great fact or truth which is startling in its simplicity,—when there has simply been one terse, bold statement of it. It has to be “line upon line, precept upon precept; here a little, and there a little.” The point of view may be changed, the phraseology may be altered, the considerations adduced in support may be varied; but the thought, truth, or fact itself must be repeatedly presented, or it cannot possibly be really received,—that is, assimilated, made part of the nature, so as to be operative and influential in the life and conduct.

The truth of the above remark applies to all persons, whatever the extent or depth of their culture, and is not appropriate merely in the case of the mass of people, whose opportunities of intellectual cultivation have been few and small, and whom I now desire specially to reach and to influence for good.

The Healthy Child instinctively breathes through its Nose.—Though it is true that the new-born baby, in uttering its first cry, practically breathes through the mouth, yet it is no less true that no sooner have its lungs, which

had previously been in a state of collapse, become fully inflated than it instinctively and persistently breathes through Nature's air-passage; namely, the nose.

The Nose is the natural Breathing-passage. It cannot, I think, be denied, or seriously doubted, that the nose is the channel through which Nature intends us to breathe,—that is, supply to the lungs the air which they need for the due performance of their important functions. Its extreme and wonderful sensitiveness, by which it is fitted to act as the organ of the sense of smell, enables it to test the air which comes to it, and to inform and warn us respecting any impurity or offensiveness which may be in the air. Its structure shows its purpose and its appropriate functional activity. One has only to study the anatomy of the nasal organ to become convinced that it is the breathing apparatus destined and supplied by Nature for our use.

Structure of the Nose. — On page 13 we present a diagram of the anatomy of the *nasal fossæ*. These are two in number, each possessing two orifices,—the anterior nares, or



1, 2, 3, Turbinated bones.
 4, Orifice of Eustachian tube.
 5, Naso-pharynx.
 6, Soft palate.

7, Pharynx.
 8, Tonsil.
 9, Mouth.
 10, Tongue.

nostrils; and the posterior nares, opening into the upper part of the naso-pharynx. The two

fossæ, or cavities, are divided from each other by a vertical wall, or partition; their sides are formed by bones and the cartilages of the nose. Inside the fossæ there is a delicate mucous membrane, the extent of which is increased by folding over projections of the walls of the cavity. These projections are spongy bones, and in man are three in number. Prolongations of the membrane extend into hollows of the neighboring bones. These are called *sinuses* (the frontal, above the nose and between the eyebrows; and the sphenoidal, lying farther back), and the antrum of highmore in the superior maxillary bones.

One might give a fuller description of the parts, but the above will be sufficient for my purpose.

Functions of the Nose.—It has been, by experiments, clearly shown that no matter how cold the air around us may be, that air, if allowed to filtrate through Nature's orifices (the nasal passages), will, before reaching the lungs, be warmed to nearly the temperature of the body. The nose has not only the property of raising the air (which is thus filtrated through it) to that natural tem-

perature of the body which is consonant with health, but it has also the functional duty of doing that which can be accomplished by no other organ; namely, intercepting the passage of all those germs (impurities, etc.) which are floating in the atmosphere, and are detrimental to the human body. This very fact that the passage of air through the nose is sufficient to raise it to the temperature of the body, is enough of itself, without any further reasoning, to prove that this is the natural method of breathing.

What do we see in a baby after the first preliminary effort of crying, by which the little stranger shows that it is (and we hope will remain) a human inhabitant of this fair world? We see that although prior to birth its lungs were in a condition of collapse, it has inflated them by a process which I own is tantamount to mouth-breathing; but we also see that from the moment of the completion of that necessary process of inflation it instinctively and persistently refuses to use its mouth at all for the purpose of breathing, but employs in preference Nature's air-passage,—the nose.

Mouth-breathing a Danger-signal. — As soon as a child refuses to breathe through its nose *something is wrong*; and then it is that the mother, who is supposed to care for and tend her offspring, should *know* that something is wrong, and should seek for a remedy.

What the Mother should do. — The evil is not that mothers are guilty of wilful wrongdoing, but that they are ignorant of what should be done, what is right to do, and what they should avoid doing. They are very much to blame when they do not seek proper advice as soon as anything connected with the child is evidently out of order. When a mother, or other person in charge of a child, is told clearly and plainly what ought to be done, she will certainly be blameworthy if she does not do it; and much harm may come to the child if such directions be not obeyed.

The Coming Race. — I must say a word respecting an important point upon which plain-speaking, although it might be very beneficial, is by no means as common as it ought to be. The propagation of offspring should never be to human beings the aimless,

thoughtless, or selfish indulgence of passion, or the mere reproduction or perpetuation of their personal selves; but it should be regarded as the natural and divine method of the continuance of the human race; and the aim should be to rear a generation which shall surpass that which has preceded it, and be an honor to its species.

The backbone of a nation is really the working-classes; and it is they who should be taught to understand and recognize disease in its first stages, and be enabled by proper instruction to stamp it out, and rear their children to become healthy and robust adults. When we have passed away from the stage of bodily life, we should leave behind us an improved race, instead of one which is deteriorated; and this great end can be attained only by stamping out disease in its earlier manifestations, even in its beginnings, by avoiding the causes of disorder, by obedience to the laws of health and the laws of the human body and mind, and by thus rearing up children who shall be strong and healthy both in constitution and in life.

From this point of view, and with reference

to my special theme, it must be earnestly said that all which human beings can do should be carefully done to avoid the introduction into the world of children who are blind, lame, or deaf, or have even only some impediment of speech. What the world really needs is a race of men and women fully possessed of all the powers which are naturally their heritage and endowment, and who are capable of holding their own in the country to which they belong, enduring the strain of life and performing its duties.

Troubles arising from the Ignorance of Midwives. — The troubles that have accrued to humanity from the ignorance of midwives — I will not say from their wilful or assumed ignorance, or their conscious wrong-doing — are to my mind innumerable, unspeakable, intolerable. This remark is not simply theoretical ; it is also practical, and arises from my own experience. When I find that thousands of children who are born healthy and well are, through the ignorance of these women, allowed to become practically blind, it becomes to me an intolerable scandal. Case after case comes before me in which it has

to be said that the poor child is practically beyond medical skill. The mother will tell me that there was nothing the matter with it except a cold in the eye ; and yet when it is at last brought for treatment, it is often extremely difficult to save what little sight has not been irremediably injured. It is the same with other diseases.

The important point I wish to enforce is this,— that mothers and midwives (and what I am writing is chiefly for mothers and others in charge of the young, and not for the medical profession, the members of which know already all about it) should be taught what they ought to do on behalf of those for whose birth and subsequent welfare they are responsible.

Mouth-Breathing a sign of Obstruction.— It is, I repeat, quite clear that the nose is the only proper channel through which we should respire. So soon as a child begins to breathe through its mouth, something is wrong ; there is some difficulty, some obstruction, some disorder, and it is time for the mother to be watchful and careful, and to obtain advice as to why her little one does not breathe in the

manner intended by Nature,— high time to obtain and apply the remedy for the obstruction or difficulty, whatever it may be.

When the child begins to breathe through other channels than those which Nature ordained, something, I repeat, is wrong; and the sooner the obstacle is discovered and the remedy applied, the better it will be for the child.

I lay great and repeated stress upon these preliminary facts for the simple reason that I believe that it is not through wilful neglect or criminal cruelty, but through pure ignorance, that so many children are ruined for life. How sad it is to see a poor child, who had it received proper attention and care during infancy might have been perfectly healthy, now, for lack of these, walking about blind, deaf, dumb, or lame! And our sadness is no way lessened when we think that it might have been cured had it been taken to a man who clearly understood what was the matter, and how to treat the case!

I am glad to say that many of us are neither lame, blind, nor dumb; but I sometimes wonder what we might have been had

we been left to the aid of Nature alone, without human care, watchful kindness, and skill. Nature, no doubt, is the great healer, and true medical science must be a lowly, obedient student of Nature. No one believes in Nature more devoutly and completely than I do. But what is our position in Nature, and for what purpose are we created and placed here? We are here, not to oppose and defy Nature, but to aid her and obey her. And although medical science is far below that point of excellence which I could wish it had reached,—far beneath the position of knowledge and skill which it ought to occupy,—it is yet the great and beneficial healing art; and it can, to a very great extent, aid Nature and bless mankind. He is the most successful doctor who does not oppose Nature, but endeavors to co-operate with her. When we are trying to alleviate suffering, we must remember that so far as human beings are concerned we must work in harmony with Nature, or we cannot possibly be successful.

Take Advice in Time. — Those in charge of children should realize that cases ought to be treated by competent medical men before

they are too far gone to be cured. Neglect may be innocent and unconscious, while it is at the same time most lamentable and disastrous ; or it may be wilful, obstinate unreason, and thus criminal and guilty. Ignorance is to be pitied and removed ; wilful folly must be corrected and overruled.

Did mothers know more fully what really should be done, they would not, I am persuaded, act as they now so often do. I cannot imagine a mother knowingly permitting her child to become blind or deaf or lame, and thus imperfectly developed, or a sufferer for life. Women are naturally good at heart ; they simply lack and need knowledge of what to do. However ignorant the mother may be, if she were told the real facts of the case, and that such and such consequences must ensue from a given state of things or a certain course of conduct, she would not for a moment, I think, allow her child to become hopelessly maimed or disordered, or to suffer through her neglect. She must be a very bad and very vile woman indeed who would consciously and wilfully allow her child to incur a disease, or to be practically deprived

of a sense or a faculty, when she herself has the power and knowledge to avoid such sad results. But apart from any possible and actual exceptions, I am convinced that ignorance — sheer, crass ignorance — occasions the careless or wrong treatment during infancy which is the cause of so much of the suffering entailed upon mortals in after-life.

I do not pose as a prophet or miracle-worker. I simply desire and intend, in common humanity, to do what I possibly can on behalf of those who come after me, and who, I trust, may avoid the remediable and removable suffering which has already too long afflicted the human race. I have written, I trust, quite sufficient — with, as I have explained, designed reiteration — to render my main point perfectly clear.

The reader has only to look back to the diagram which I have given to see exactly the anatomy and structure of the nose. If beauty means harmony of structure and form, in view of functional activity to be manifested and environment to be inhabited and adapted, then I would say that in human anatomy

there is no organ more beautiful in structure than the nose.

If the reader will examine its structure, he will see that there are spongy bones covered with erectile tissue, which fills or empties, is expanded or contracted, according to requirements in the process of respiration.

The nose, then, is Nature's respirator. Whatever may be the temperature of the atmospheric air as we leave our home, we shall find that so long as we keep our mouth shut the nose will warm the air respired to nearly the temperature of the body before such air reaches the lungs.

The absolute Sovereignty of Nature. — So soon as we begin to play fast and loose with Nature, or to act arbitrarily in fancied ability to defy her dictates, so soon will Nature's penalties be enforced against us. I lay it down as a law that Nature is paramount and obligatory. If we obey her, we obtain and enjoy the blessing which attends docility and harmony; but if we defy and disobey her, we do so to our own loss, pain, and woe. He who fulfils Nature's behests will naturally succeed better in life than can he who per-

sistently and madly breaks his bones on the wheel of necessity by opposing his puny self to Nature's laws, which he cannot alter, and the operation of which he cannot escape. Many misled by ignorance or prejudice, or false assurance, have no idea that there *are* laws of Nature; and it all seems to them an arbitrary, chaotic, inscrutable affair. Really, however, there *are* laws of Nature; and those laws are wise and good, and cannot be broken with impunity.

“ Though the mills of God grind slowly,
 Yet they grind exceeding small ;
Though with patience He stands waiting,
 With exactness grinds He all.”

If this little work be the means of enlightening, warning, or guiding any persons, and thus of doing any good to suffering humanity, I shall be much gratified, and shall feel myself fully rewarded.

CHAPTER II.

MOUTH-BREATHING, AND SOME OF ITS CAUSES.

The Nose is the only natural Breathing-passage. — When a child begins to breathe otherwise than through Nature's channels, it is in danger; and she is a wise and good mother who will at once endeavor to find out the cause and the remedy. The instinct to breathe through the nose is so strong as to be apparent to the most casual observation. Who ever saw a man, woman, or child in a state of nature — I mean in a savage state — breathing through the mouth? I have travelled in all parts of the world, and never saw among savages more than one mouth-breather; and he, by coming into contact with "civilizing" influences, had become so addicted to the habit of taking intoxicating liquors that he appeared to be compelled to breathe through the mouth as the largest opening. Catlin says: "If I

were to endeavor to bequeath to posterity the most important motto which human knowledge can convey, it should be in three words : ‘Shut your mouth !’” Catlin also says that he found among two millions of people living in a savage state only three or four deaf-mutes, and not another individual who was hard of hearing. Savages, in fact, never breathe through the mouth. Animals, also, when quiet, breathe only through the nose. It is true that some animals pant, and when so doing breathe through the mouth ; but that is only when they are out of breath through excessive exertion, or under conditions of intense heat. As soon as they become quiet, calm, and cool, they resume natural breathing,—that is, through the nose.

Nature asserts herself everywhere. She lays down certain laws. If we fulfil those laws, things go well with us ; if we neglect them, we suffer. In the long-run we shall find that the Great Architect of the universe will assert himself, and will prove to us that he is master, and that his laws are to be obeyed. We may depend upon it, that his arrangements are for the best.

Thus, Nature having given a certain passage through which we are to breathe, the person who does not use that passage, or who does not employ it exclusively, will certainly in the long-run suffer.

Importance of Promptitude. — On the first intimation that the breathing of an infant is performed through the mouth, the mother should, I repeat, endeavor to find out the cause of such deviation from the natural rule, and seek special advice and aid; and she will be guilty of absolute cruelty, as well as of reprehensible neglect, if she fail thus to investigate the cause of disorder, and to take and act upon the advice which may save the child untold misery in its after-life.

It is heart-rending to see men and women suffering from diseases which, with very little trouble, might have been arrested and cured in their early stages. Look at our work-houses, our asylums, our hospitals. How many of our fellow-creatures at present suffering in these institutions might have been saved from that which they now endure had they been properly treated at the outset! Take disease in its first stage, and it is easily

and speedily cured; but begin only after a time of delay to pay attention to it, and it has then become difficult and almost impossible to effect a cure.

I have often wished that it lay in my power to relieve the misery caused by that neglect which is visible daily in our towns and villages. Personally, I have little or no reason to complain of neglect: Nature has been kind to me. But I desire to be of some service to my fellow-creatures; accordingly, with repeated request and earnest plea, I urge them to seek relief and cure while yet there is time; for there is “no time like the present.”

Causes of Mouth-breathing. — The causes of mouth-breathing are numerous; in fact, detailed reference to them all would involve the composition of a far larger book than it is my intention to produce at present.

“**Cold in the Head.**” — In the first place, taking the new-born baby as an example, it is well known that a few days after birth the child (generally through hereditary disease) has what is commonly known as “cold in the head.” Of course, this ought to be attended to by the medical man, and treated profes-

sionally. She is a wise woman who "takes time by the forelock," and does not by neglect and delay allow the child to lapse into a state of chronic disease.

Sleeping on One Side only. — Another cause of mouth-breathing is the habit of allowing a child to sleep on one side only. I lay great emphasis upon this point; for I am sure that if a child persistently lies on one side, the filling up of the erectile tissue of the nostril situated nearest the pillow will produce the very disease which afterwards develops into obstruction of that nostril.

Deviation of the Septum. — It is my firm conviction that such apparently simple and trifling matters are the cause of many deviations of the septum (partition between the right and left nasal cavities). It is well to realize what this means and involves. In case of a person afflicted with deviation of the septum, with a tendency to hypertrophy (excessive enlargement) of the spongy bones, the greater the quantity of air breathed in, the more serious does the closure of the nostril become, owing to the ala of that side acting as a valve.

Spurs, Enchondromas, etc.— Spurs, enchondromas (cartilaginous tumors) and other obstructions are, no doubt, frequently productive of mouth-breathing. But, in my opinion, nearly all these cases could be relieved and cured if taken in time.

The Fallacy of letting “Well enough” alone. I am now writing not so much for those who have attained adult age, as for the purpose of warning parents and others who have charge of young children against the evils of leaving what is often termed “well enough” alone. I know, by observation and experience, the evil effects of “letting well enough alone;” but if something is wrong, we should at once seek for alleviation and cure. “Delays are dangerous.” When, for instance, a child is suffering from discharge at the ear, it seems careless and criminal — it is assuredly very dangerous — for any one, whether a medical man or one of the laity, to tell people to “leave well enough alone.” It is much wiser to say: “Here is something wrong,— a disorder, an evil; we must earnestly endeavor to alleviate and cure it.”

I shall further on point out the great danger

of discharge at the ear. I am now simply endeavoring to impress upon the minds of my readers the great importance of never allowing respiration otherwise than as Nature has ordained to continue unchecked after the first symptom.

There are many other causes why nasal respiration does not take place. I mentioned just now that a primary cause is coryza, or cold in the head. This may be specific, or it may be idiopathic; but whatever be its nature, it should never be allowed to continue. So soon as her child begins to breathe otherwise than through Nature's organ, the mother should endeavor at once to discover the cause and to obtain advice and remedy.

Result of continued Colds in the Head. — If this coryza be allowed to continue, it will, no doubt, occasion difficulty of breathing through the nasal channel, and it may further result in growths which eventually lead to complete obstruction.

When a child ceases to breathe through its natural organ, what happens? It *must* breathe in order to live; and if Nature be thwarted in her endeavor to utilize the proper

channel, she goes immediately to that which lies nearest,— that is, the mouth,— and perforce uses that. What is the consequence?

Immediate results of Mouth-breathing. — The cold, damp air of our climate, which passing through the natural channels would have been properly ventilated, warmed, and approximated to the temperature of the body, is taken in first-hand, and allowed to fill the lungs while in a crude, unmodified state. The first symptom we note is that the child has a sore-throat. Those in attendance may call it anything they like, but the fact remains the same.

Something is wrong. The child cannot breathe properly. It consequently tries to breathe through its mouth; and it will be lucky if it escape with only enlargement of the tonsils. But, as a rule, the longer it is allowed to breathe in that way the larger will the tonsils become, the more the nose will be blocked, and the more miserable the child will feel.

After-effects of Mouth-breathing. — The after-effects are cruel and dreadful. Nearly all our cases of asthma, chronic bronchitis,

winter cough, narrow chests, pigeon breasts, and consumption, forming a very large part of the physical sufferings under which human beings are groaning to-day, might be traced to that one dereliction against which I am so anxious repeatedly to warn every one,—namely, the neglect of breathing through the natural channel.

The main reason why so many persons are at this moment dwarfed, deformed, or imperfectly developed, is that in their youth these things which I so eagerly desire to impress upon my readers were unfortunately not understood. Hence proceed our manifold woes. If, through my earnest iteration of truth, my readers will understand and realize that their diseases and deformities are not an absolute, unavoidable decree of mystic, awful fate, but that they are remediable and removable, and that it is our duty to alleviate and to cure them, then the way will be opened more widely for human progress and improvement. And rich benediction will then result to beings yet unborn, from our co-operation with true science, and our determined endeavor to understand and obey the laws of health.

CHAPTER III.

FURTHER CAUSES OF MOUTH-BREATHING.

Hereditary Tendencies and Diseases. — It is sad to think how many children are handicapped from their birth upwards, owing not only to bad hereditary tendencies, but also to hereditary diseases, the germs of which are more or less always present, though often only latent.

Scrofula and Syphilis one and the same. — That scrofula and syphilis have a great deal to do with diseases of the nose, most physicians will, I think, acknowledge. The late Professor Gross, in one of his able lectures at which I was present, said : “If the Almighty will but spare me a few years longer, I will prove conclusively that these two diseases are one and the same, though in a different degree.” The prevalence of these diseases, especially among our poorer classes, is very great ; and although any part of the body may be

attacked by them, it is, in my opinion, the nose which generally first shows more or less of their ill effects.

Rheumatism and Gout causes of Disease of the Nose.—It is, however, not so generally understood or admitted that rheumatism and gout are also primary causes of many diseases of the nose. How frequently it occurs that a plump-looking and to all appearance perfectly healthy child develops later a disease of the nose, taking that form popularly known as “snuffles,” — this being generally due to syphilis! Rheumatism, on the other hand, does not attack children so early; but sooner or later many of them, inheriting the poison of this disease, develop a tendency to those “colds in the head” which are due to it.

Effects of an ordinary Cold in the Head.—That many diseases of the respiratory organs commence in the nose there is, I think, no doubt. What is the effect of an ordinary cold in the head (or nose) of a child? Clearly in the first place the nasal fossæ become congested and hyperæmic (excessive accumulation of blood); in the second place a larger amount of mucus is secreted than is natural,

and the child becomes unable to breathe through Nature's passage, the nose. This symptom, after remaining a few days, may disappear and apparently leave no ill effects behind ; but before very long the child, either from being placed in a draught, kept out too late at night, or in an atmosphere unsuited to its constitution, develops another and perhaps severer attack.

Organic Disease of the Nasal Fossæ. — No sooner are these attacks developed one after another, than the child will of a surety have an organic disease of the nasal fossæ.

Mouth-breathing.—Unable to breathe through its nose, it does the next best thing for its own comfort, and begins to breathe through its mouth.

Hypertrophy causes Formation of Adenoid Growths. — Little or no air then passing through the nostrils reaches the nasal fossæ, and the consequence is that the mucous membrane of the back of the nose participates in the congestion or hyperæmia of the nasal fossæ, and sooner or later hypertrophy (excessive enlargement), taking as a rule the form of adenoid (glandular) growths, is de-

veloped,—these growths thriving best in a situation devoid of proper ventilation.

Congestion or Hyperæmia of Pharynx.—The next stage (the child having developed a propensity for breathing through its mouth) is that the air taken in a crude state without the intervention of Nature's true respirator, especially the air respired at night, develops congestion or hyperæmia of the pharynx.

Chronic Sore-throat.—Should this be allowed to go on, the child in most cases becomes the subject of what may be called chronic sore-throat,—not always sore in the sense of pain being developed, but that on examination the pharynx will be found to be red and more or less inflamed.

Enlargement of Tonsils.—The tonsils will in many cases enlarge; and we have now a mental picture of what is most commonly seen,—a child unable to breathe through its nose, suffering from growths in the naso-pharynx and enlargement of the tonsils; also hypertrophy, more or less, of the mucous membrane of the pharynx.

These cases one sees by the hundred; and the cause of most of them is, in my opinion,

to be found in an hereditary tendency to rheumatism or gout.

Diphtheria, Scarlet Fever, Measles, etc. — Other causes of mouth-breathing in children may be mentioned. For example ; a child gets diphtheria, scarlet fever, measles, or some of the many other specific diseases which generally produce more or less acute inflammation of the throat, especially the pharynx, developing by this inflammation chronic hypertrophy both of the nasal and the surrounding mucous membranes.

Recurrent Attacks of Sore-throat. — Then, again, it is no uncommon thing to find children (and for that matter adults also) suffering from recurrent attacks of sore-throat, owing to bad air and bad surroundings,— practically from the same causes as those producing scarlet fever, etc.

Excess of Mucus a Cause. — Another cause may be found in children who, although not suffering exactly from so-called “colds in the head,” secrete in their nasal fossæ an unnatural amount of mucus, which, by becoming inspissated (thickened), tends to block up the passages, and thus causes the child to breathe more or less through its mouth.

Accidental Causes. — That little children are very prone to tumbling about and hurting themselves goes without saying. In those cases where the unfortunate child happens to fall on its nose, a certain amount of local inflammation is produced, and in many cases a deviation from the middle line of the septum,— producing a state of things which, by developing congestion of the turbinated bones and their mucous covering, causes a hyperæmic condition of the bony or cartilaginous septum, often producing local hypertrophy, spurs, and enchondromas. That spurs and enchondromas are more or less thus caused primarily by injuries to the nose during childhood, I have not the slightest doubt. No one can injure any part without producing, primarily, inflammatory action; secondarily, hypertrophy. In the case of a child which has fallen on its nose, and the cartilage of the septum is struck on one side, not necessarily broken, but bent,— what is the result? The whole of the nose on the side towards the bend will, every time the child tries to breathe through that nostril, tend to move towards the middle line, acting thus as

a valve. The side opposite becoming from this deviation more patent than natural, the mucous membrane and the turbinated bones of that side tend in all cases to become enlarged and to grow toward the septum, as though they were afraid of being left in the lurch,— the consequence being that the action of the ala on one side, and the chronic enlargement of the mucous membranes of the turbinated bones on the other side, obstruct the free passage of air through Nature's channel, the nose, thereby producing mouth-breathing.

Scrofula a Cause. — Again, so-called scrofulous children, especially among the poor and ill-fed, living in badly ventilated rooms and surrounded by bad air, very often develop a state of chronic eczema of the nostrils, the discharges from which becoming inspissated form crusts, and tend more or less to block up the nostrils,— producing in many cases a state of things which forces the child to breathe through its mouth.

Bleeding from the Nose also a Cause. — Many children become subject to chronic headaches and bleeding from the nose. The blood dry-

ing in the nasal fossæ tends to block up the nostrils, and cause the child to breathe habitually through its mouth.

At a more adult age, also, continual colds in the head, with an unusual secretion of mucus, and its consequent inspissation, produces obstructions in the nasal fossæ; and mouth-breathing is the result.

Polypi of the Nose.—Polypus of the nose is luckily very rare among children, but it is comparatively common in adult life. Growths like polypi, originating as they do from the turbinated bones in the narrow passages of the nose, tend to block up the nostrils,—in which case mouth-breathing is the only possible way by which air can reach the lungs.

I do not here intend to go through the entire list of the diseases which may, and in most cases really do, tend to block up the nostrils and produce mouth-breathing. Their name is legion,—from simple congestion to unquestionable tumor, etc. My object is to show that this habit, the result of many causes, occurs more or less in childhood and early adult life,—in other words, in those who practically have their life before them.

The Habit of Smoking. — I may here mention that I have not the slightest doubt that in the case of a person with a perfectly healthy heart, healthy digestion, freedom from disease of the nose, throat, or ears, tobacco does of itself little or no harm ; but I am confident that so far as a weak heart is concerned, tobacco must of necessity — as a direct sedative and depressant — do a great deal of harm ; also that by delaying as it does the action of the gastric juices, it must of necessity, when used to excess, tend to produce a state of chronic dyspepsia, — and dyspepsia is very often a direct cause of throat disease. And I emphatically assert that in all cases in which we find a tendency to weakness of the vocal organs, especially of the mucous membranes, — with which may be classed a tendency to disease of the nose, — tobacco in all forms becomes absolutely injurious ; and I do not think that any case of real chronic disease of the throat can be cured unless the habit be entirely abandoned.

Intoxicating Liquors. — The habit of drinking malt liquors and undiluted spirits in excess also tends to produce a state of hypertrophy

of the mucous membrane of the mouth and throat. Many cases of mouth-breathing no doubt originate in habitual and excessive use of tobacco and stimulants. It stands to reason that anything which will bring more blood than is required to any given part must tend to produce enlargement of that part; and hence it is that people who habitually smoke and drink are always more or less mouth-breathers, especially at night, when they nearly always snore.

Excessive Use of the Voice. — Excessive use of the voice, as in the case of clergymen, also tends to produce a chronic state of congestion of the throat, and of breathing through the mouth.

One might easily enumerate many other causes which produce this pernicious habit; but I think I have mentioned enough to show that mouth-breathing is really far more common than it is generally thought to be.

CHAPTER IV.

EFFECTS.

Now, what are the effects of this mouth-breathing? Does it really do any great harm? If so, in what way?

As I have already demonstrated, Nature has supplied us with an organ — namely, the nose — containing passages made on purpose to carry air to the lungs; and if from any cause the air required for the maintenance of life cannot be made to pass through these passages, mouth-breathing is the result, — the effects of which, as I have already shown and shall now proceed still further to show, are in many instances most disastrous.

General Weakness is caused by Mouth-breathing. — In the first place, young children addicted to the habit of mouth-breathing are never so healthy or so strong as those who breathe through the natural channels. They

are nearly always puny, pale, and bloodless, their chests contracted, pigeon-breasted, and in many other respects undeveloped.

False Croup. — They are more or less liable to chronic disease of the larynx,— taking the form of *laryngismus stridulus*, or false croup ; also to disease of the lungs. There are few medical men in general practice who do not know what it is to be called up in the middle of the night, or in the early morning, to see a child suffering from this form of croup,— in most cases caused by stoppage of the nose, and mouth-breathing.

Convulsions. — Convulsions in children are also often developed from this habit. How can a child, whose natural breathing-passage is closed,— the back of whose throat is more or less blocked up,— sleep with any degree of comfort? In such a condition its sleep is always more or less troubled, and it often wakes up gasping for breath,— an attack of convulsions being the result. No child can grow and become properly developed whose rest is disturbed in this way. It is bad enough as age creeps on, when the cares and anxieties of life weigh heavily on our shoul-

ders, to find our natural sleep a thing of the past; but in youth how disastrous must it be to future healthy growth to be robbed of sweet and refreshing sleep! There is no doubt that such children are in many cases the first to succumb to any serious illness or disease, simply owing to the loss of nervous power which results from want of proper sleep.

Chronic Bronchitis, Asthma, and Winter Cough.—Chronic bronchitis and asthma are too often developed in those who are obliged from one cause or another to breathe more or less through their mouth, especially during sleep. Most cases of winter cough and bronchitis among elderly people have their origin in this habit.

Epilepsy.—Many cases of epilepsy are no doubt to some extent brought about by mouth-breathing.

To sum the matter up, I consider that mouth-breathing is the cause, in varying degree, of most of the physical troubles to which civilized mankind is subject.

CHAPTER V.

TREATMENT.

Can anything be done? — Seeing the dangerous results arising from mouth-breathing to which children and adults are liable, the next thing to be considered is, Can anything be done to ward off or modify those results, especially in the young whose life is all before them ?

If taken in time, Yes. — I say that in the case of those who are wise and have the common-sense to apply to medical men who understand these several diseases, not only can something be done, but, if the child be brought early enough, perfect cure can in most cases be effected.

If neglected, No. — On the other hand, if these cases be left to Nature, unaided by a surgical science which every day grows larger and more precise, little or nothing can be

done to save the child or the adult from severe suffering. Not only must these persons be in a continual state of discomfort, owing to the closure of Nature's air-passage, but the disease of the throat must become day by day more accentuated.

Deafness results from Neglect of Treatment. Moreover, the inflammatory action, situated as it is in the nose and naso-pharynx, tends of necessity to extend upwards through the orifices of the eustachian tubes, and produce more or less in every case disease of the middle ear and deafness. Hence it is, that, of any fifty persons picked out haphazard, more than thirty will be found to be the subjects of disease in one or other of these organs. It is a most uncommon thing to find any one at forty years of age who has not something the matter with one or the other of these parts. Does it not then behoove us to do all in our power to have patients placed under proper medical care before the disease has produced such effects as to be almost incurable? Ought we not to try our best to effect a cure before the disease has reached this later stage? Nearly all children, as I

have said, if brought early enough, can be more or less completely cured,—so that instead of growing up to be stunted, anaemic, unhealthy, and narrow-chested men and women, they will be developed into such wholesome manhood and womanhood as to be the pride and glory of the nation. It really becomes of national import to produce a race of people equal to all emergencies and able to battle with the difficulties and perform the duties of life, and also able, by their strength both of body and mind, to promote the welfare of the country to which they belong.

Let me repeat with emphasis that children, if brought early enough, can in most cases be easily cured.

Removal of Nasal Obstruction.—The first thing, of course, is to reopen Nature's doorway when we find it closed, and by enabling the child once more to breathe through proper channels, insure that the air which reaches its lungs shall be warmed and chemically acted upon by Nature's organs. Should growths, in the form of enlargements or adenoids, fill the naso-pharynx, and thus

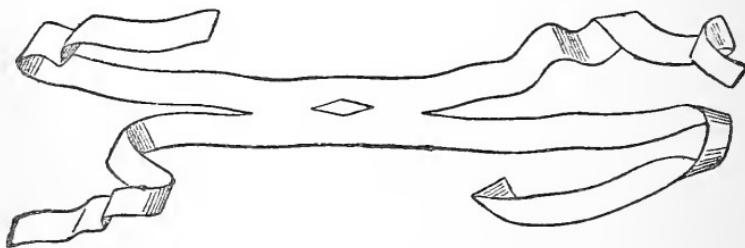
block up the posterior nares, they must at once be removed ; and I myself prefer that kind of operation which, while doing all that is requisite, leaves the various parts practically as they should be in Nature.

Excision of Enlarged Tonsils. — Should the tonsils be enlarged and hypertrophic, they should be thoroughly removed ; if they are left, I seldom find that the child is able to breathe through the proper channel. Although I am aware that many specialists are in the habit of removing the post-nasal growths and enlarged tonsils at one and the same time, I myself deprecate this mode of treatment ; for one never knows how much inflammatory action may ensue from the removal of these growths ; and if much inflammatory action does ensue, it stands to reason that the tonsils, being again supplied with a superabundant amount of blood, must of necessity begin to enlarge again. I therefore remove the post-nasal growths first, — sometimes with and sometimes without anæsthetics, according as the child will or will not allow me to have full control over it ; and after a few days, — say a week, — when

everything has resumed its natural and quiet course, I proceed to remove the tonsils.

After-treatment. — After the growths and tonsils have been removed, the next thing to do is to find out from the persons in charge of the child to what extent it now breathes through its nose ; and if an obstruction still remains, the nose should be thoroughly examined. Hypertrophies should be lessened, enlargements reduced, and spurs and enchondromas removed ; for it is only when the child can breathe again through Nature's channels that I am satisfied.

Prevention of further Mouth-breathing. — In most of these cases in which the child has acquired a confirmed habit of mouth-breathing, in order to educate it to breathe through



its nose again it is my custom to proceed by the application of a four-tailed bandage placed under the chin (after the manner of treating

a fractured jaw), thereby causing the mouth to be closed not only by day, but by night as well, for several weeks; and my experience is that after removing all obstacles from the nose, naso-pharynx, and pharynx, it is possible to educate young children at least to breathe again more or less completely through the nostrils. I am sorry to say that the older a confirmed mouth-breather is, the more difficult it appears to be to educate him to breathe again through Nature's channels, even though obstructions have been removed. I find that in many cases of patients who are forty years of age and upwards, it is almost impossible to do so. I think the reason for it is that so many elderly persons are foolish enough to refuse to undergo any system of treatment which entails upon them much inconvenience. I have often to tell patients that it is useless for them to undergo any further treatment if they will not persistently follow my instructions, and do all they possibly can to breathe through the nose.

Deafness. — I have never yet treated a deaf person who did not snore.— in other

words, who did not breathe through the mouth when asleep ; and I believe that many cases of so-called incurable deafness might be more or less cured if the patients would perseveringly and steadily follow up the practice of keeping the mouth shut by night and by day. Some few cases of deafness are no doubt caused by injury,—such as a noise from a cannon or a blow on the ear,—in which mouth-breathing would not of necessity be induced ; but these cases are, in my experience, rare. In all cases of idiopathic and chronic disease of the middle ear, sufferers, so far as I have observed, breathe through the mouth, especially at night-time,—thus keeping up a state of chronic congestion of the back of the throat, naso-pharynx, nose, and eustachian tubes, which it is impossible to cure, unless the habit itself which is the cause of all the trouble can be effectually broken up.

My practice in the treatment of these diseases is to do only so much as (and no more than) will produce the effect required ; namely, to cause a free passage through the nose and naso-pharynx. I therefore depre-

cate all heroic treatment of the nasal fossæ, etc. It cannot be good surgery to remove a turbinated bone which Nature has placed there to fulfil her useful purposes. Once remove a part, especially a bone, and the organ from which the removal takes place can never be the same as it would have been in Nature. I therefore seldom remove these bones; but enchondromas and spurs must be removed, as they are unnatural growths. I lessen the enlargement of the turbinated bones by quiet and continuous treatment. This treatment no doubt requires more time; but the ultimate result is, in my opinion, better, and tends to leave the nasal fossæ more nearly as they should be found in health. For the chronic thickening of the mucous membrane of the pharynx such remedies are used as also tend gradually to lessen its size; and although the treatment is rather prolonged, the result in most cases is very satisfactory.

It is beyond the scope of this little work to enter into all the cases and discuss the treatments of the many and various diseases of these parts of the body. I simply wish,

as I said before, to impress upon all those interested, not only the importance of understanding the serious danger, to child or adult, of persistently breathing through the mouth, but also to point out how easily and effectually the different causes can be removed and in many cases the effects cured.

Many mothers have brought their children to me who when asked, "Does your child snore at night?" have replied, "Oh, yes, sir; we have often laughed at the child, and said it snored like an old man." They little knew the injury they were doing to that child by allowing it to develop the habit of mouth-breathing; and many, after a full explanation of the causes and the effects of this habit, have thanked me, and said: "Why was I not told this before? If I had only known, I would have brought my child for treatment sooner, and then, no doubt, the cure would have been more complete."

This subject is to my mind of the highest importance; for I am sure that there are many now practically ruined for life, so far as their comfort and health are concerned, who had they been taken in hand at an early

stage and properly treated would now be in a state of perfect comfort and health.

Discharges from the Ear very dangerous. — I may here mention that all discharges from the ear should have early and proper treatment. Nothing is more dangerous than to allow a child to have a discharge from the ear. It means that sooner or later the bones of the middle ear will become necrosed, or dead, and that the child will be in hourly danger of dying from inflammation of the brain. Therefore, never allow a child suffering from discharge at the ear to be left to Nature alone, but have the ear properly treated and the disease cured as soon as possible.

APPENDIX.

I FEEL that I cannot bring this little work to a conclusion without a few remarks upon a disease the effects of which are even more disastrous than those to which the book specially refers. I allude to ophthalmia in new-born children.

The Victims of Ophthalmia easily cured in the first stage. — It is sad indeed to think that in this country alone hundreds and thousands of men, women, and children, otherwise in good health, are many of them totally, and the others more or less, blind from this disease, — a disease which, if taken in its first stage, is so easy of cure that a few hours' proper treatment would in most cases effect it; but which if left to itself, unaided by proper treatment, is one of the most difficult diseases to deal with, and most disastrous to the patient.

The Disease does not appear immediately after Birth. — It is unfortunate, in one sense, that the victims of this disease always appear, when born, to be in a state of perfect health. Were these children born with the disease already upon them, treatment would no doubt be more frequently applied. But the disease never shows itself until the child is from three days to a week old, — three days being usually the time.

The so-called Midwife. — Connected as I am with an infirmary which treats diseases of the eye, ear, throat, and nose, I have great opportunities for seeing and judging of the disastrous effects of this disease; and I have noticed that in nearly all cases the mothers of the children brought for treatment (unhappily too far gone to effect a proper cure) have been attended by the so-called midwife.

How the Child is usually treated. — The child, say at three days old, has what these midwives call, and so tell the mother, a “slight cold in the eyes.” What is the rule? The rule is to bathe the eyes with a little milk and water, or milk from the mother’s breast,

or cold tea, and nothing more ; while in many cases the eyes are left severely alone.

The often Fatal Result. — After two or three weeks, on the departure of the midwife, the mother begins to get about again, and having no one to help her, thinks and acts for herself. Not being satisfied with the state of her baby's eyes, she at last, after many weeks' delay (sometimes as many as six or eight weeks), takes the child to some qualified practitioner ; and the result, on examination of the eyes, is that she is told that the eyesight of her child is gone.

These cases, as I have mentioned before, if only properly recognized and treated in the first stage, can be cured in a few hours, or at the most in a few days.

A proper Certificate of Qualification for the Practice of a Midwife should in all cases be demanded. — When one comes to think that thousands of children every year are allowed to go blind, or to lose so much of their sight that practically and to all intents and purposes, so far as gaining a livelihood is concerned, they are blind, I say it is a disgrace to a civilized country to allow this state of

things to go on. In my opinion, no woman should be allowed under a penalty, and a heavy one too, to attend any one as a mid-wife until she has passed an examination and received a certificate to the effect that she is a fit and proper person to attend such cases, and to understand and recognize this disease in its first stage.

The State should interfere. — When one comes to think that hundreds and thousands of our fellow-creatures are doomed to a life of misery and blindness, totally unable to gain their own living or even to help themselves, and that this has been brought on simply through the ignorance and incapacity of those in charge of them during the first weeks of their existence, — one feels that it is time that the government should be petitioned to bring forward a bill which would make it a misdemeanor to practise in this line without a proper certificate.

Blindness a State question. — Every blind person naturally becomes a burden upon his or her family, or a drag upon the rate-payers' pockets. If one should go over our blind asylums, and analyze the cases there, one

would find that nearly four fifths of the inmates are blind through this disease.

It is useless to write pamphlets, print instructions, and throw them broadcast among a population four fifths of whom never take the trouble to read them. It is useless to nail these instructions even upon the church-doors, for the very people who ought to read them seldom or never go to church. Nothing will ever be done, in this country at any rate, until the government steps in, and, treating all as ignorant children unable to take care of themselves, passes a measure making it a misdemeanor for any one to practise as a midwife without a proper qualification.

How they manage in France and Germany. — I believe that in Germany, and also in France, it is the rule in the maternity hospitals to have every child treated for this disease even before the disease appears ; and the consequence is that one hardly ever hears of a case of ophthalmia of new-born children in those countries, — at any rate, in those institutions.

Medical men, it is true, understand the complaint, and how to treat it. But it is

among the poor, who with blind infatuation refuse to avail themselves of the benefits accorded to them by the State in the form of the parish doctor, that people are found who in their silly and idiotic independence employ a woman more ignorant than themselves.

I am sure that nothing will ever be done to lessen the evils of this disease until a paternal government steps in, and by legislation makes such a state of things next to impossible.

THE PREVENTION AND TREATMENT OF
THE OPHTHALMIA OF NEW-BORN
INFANTS.

BY SWAN M. BURNETT, M. D., PH.D.

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OF WASHINGTON, D. C.¹

ACCORDING to the census of 1880, there are about fifty thousand blind persons in the United States. Of these at least fifteen thousand have become so from a kind of inflammation that is likely to attack the eyes of a new-born infant. It is not claiming more than statistics justify to assert that not one of these fifteen thousand persons would have become blind had the proper measures been instituted at the right season. In those

¹ This article is the substance of a lecture delivered before the Training School for Nurses at the Garfield Hospital, afterwards printed in "The Trained Nurse" for January, 1893; and of an "Open Letter" published in The Century Magazine for December, 1892.

large hospitals where the preventive measures first put in practice by Professor Credé, of Leipsic, are in force, the disease is practically stamped out. But unfortunately all infants are not born in a well-regulated hospital, and a very large number make their advent into the world under the superintendence of persons wholly ignorant of the gravity of this disease, and with no knowledge of the proper method of treating it after it has once been established.

The minimum cost of sustenance of a single person in our best and most economically managed institutions for the blind is about \$132 a year; the cost of the "keep" of these fifteen thousand blind persons is, therefore, nearly two million dollars annually. But these men and women, if they had not been blind, would have been contributors instead of an expense to the community, and their net contribution to the general fund can be taken as at least one dollar a day on the average. Adding this to the cost of maintenance, we have the total loss to the commonwealth of seven million five hundred thousand dollars each year; and this takes no account of those

made partially blind by the disease.¹ And then, of course, there is the humanitarian point of view, which after all is the chief one; for what calamity can be more awful than for a human being to be launched into life handicapped, with the loss of one of its most important senses! Life offers us none too much at best, but that any one should have to grope through it in darkness to the gloom of the grave, and that because of the neglect of others, places a responsibility somewhere which should be looked into. And the pity as well as the crime of it is that there is no need that it should be so. *Ophthalmia Neonatorum* is essentially a preventable disease. If the proper precautions are taken there should not be a single eye lost, where now there are thousands; and that these eyes are not saved is due to the ignorance of those whose duty it is to care for the infant during the first hours and days of its existence. Furthermore, this ignorance, I am ashamed to say, is not confined to the ordinary midwife, but is to be found among members of the medical

¹ See article by the author, "Blindness from Babies' Sore Eyes," in New York "New Record," Feb. 22, 1890.

profession who hold good positions in the community, and should have had the opportunity of being well-instructed. We could indeed, with perfect justice, go back even further, and lay the responsibility upon our teachers; for, with only a few exceptions, our professors of obstetrics neither in their lectures nor in their text-books alluded in any way to the care or even inspection of the eyes of the new-born infant. The golden opportunity for attacking the disease is at the hour and moment even of the birth of the child; and if this is not seized, the enemy has a great and constantly increasing advantage over us.

The infant brings the seeds of the disease already implanted in its eyes on its entrance into the world. It is infected in its passage through the vagina of the mother by the germs that exist in the secretions. The virulence of these secretions varies from the most intense to that so mild as to cause only a short and temporary irritation. But this latter is very rare, and where we have the disease announcing itself within the first forty-eight hours after birth, it is always of

sufficient intensity to endanger the integrity of the eye.

To Professor Credé, of Leipsic, belongs the honor of instituting the successful and complete prophylaxis of *ophthalmia neonatorum*. His method is as simple as it is effective. As soon as the child's head is born, the eyelids are carefully cleansed and opened, and from a glass rod some four per cent of nitrate of silver solution is dropped into the eye. This one application is sufficient to destroy whatever germs may have gotten in; and unless some are introduced later, the eye will be free from infection. This may appear to be harsh treatment of such delicate tissues, but it is seldom that there is any excessive reaction. Where the suspicion of infection is scant, simple cleansing with a saturated boric-acid solution will usually be sufficient, with a careful watching of the eye afterwards. But the condition of the eye in every case should be noted every time the infant is dressed; and as soon as any redness and swelling of the lids are manifest, a competent physician should be called, if there is not one in attendance.

In some countries of Europe the State has taken the matter in hand, and has made it compulsory on the attendant to report at once to the proper medical authorities all infants whose eyes show signs of being affected. In spite of earnest petitions, Great Britain has refused to take any official notice of it. In this country three States at least have taken definite action in the matter. Two years ago the legislature of New York passed an ordinance making it compulsory on the attendant to report all cases at once to the sanitary authorities; and Maine and Rhode Island have within the year followed her worthy example. Several other States have, I believe, the matter under consideration. All this is good and necessary, and should be made universal; but of what advantage are statutes if the people are unaware of the danger? In some way or ways we must let them into the knowledge of what babies' sore eyes may mean.

The time to combat successfully the disease when once it is established is at the beginning. The characteristics of the affection are great swelling and redness of the lids and a profuse discharge of matter. Every

time the lids are opened, there is a gush of purulent matter as from a freshly opened abscess. It is astonishing how much pus can be secreted by so limited an extent of surface.

In the event that any of you should be called upon to attend any such case away from competent medical advice, I would say that the proper treatment consists first in keeping the eyes as clean as possible. They should be cleansed often,—as frequently as every fifteen minutes, day and night, when the discharge is profuse.

Eternal vigilance is the price we must pay for the salvation of such eyes. This cleansing can be done by opening the lids as widely as possible, and irrigating the surface with an antiseptic solution squeezed from absorbent cotton. When the lids are very much swollen and the infant struggles, this is not easy; but then the lids are usually everted and the conjunctiva exposed, which renders the cleansing easier. Three times a day, after such a cleansing, a drop of a solution of nitrate of silver (two or three grains to the ounce of water) should be applied. As the

discharge diminishes, the cleansing can be repeated at gradually increasing intervals.

But by all means the most important consideration is the prevention; and this cannot be accomplished unless a knowledge of the danger of the disease is widely disseminated among all classes of people, but particularly among the ignorant and poor, where the conditions most productive of the disease do most abound. As I have said, the time for the successful treatment of the disease is at the very beginning. If the dangers are not recognized, there is always a tendency to delay, with the thought that it is "only a cold in the eye, and if a little breast milk is put into it it will come all right in a few days." If you had heard this story as often as I have, as told to me by the mothers who brought their babies to my clinic "to have the scum taken from their eyes," and then seen the look of anguish in their faces when I told them (as I had to) that their little ones could never see again,—you would not wonder at the earnestness with which I am urging the importance of the subject upon those who have the care of women likely to

become mothers. These people must be reached in some way or other; but if our own profession and the mass of intelligent people are so ignorant of or indifferent to the matter, how can we expect the uneducated and careless to know or heed? And yet, for our own sakes as well as theirs, the knowledge must be got to them. You can do your part by insisting upon its importance wherever an opportunity offers. Suffer no chance to escape of diffusing information as to the danger of neglected babies' sore eyes. Great good can be done by our charitable organizations, and particularly those which have to do with women. In each of the institutions or societies or church organizations, or association of whatever kind, I would have a supply of cards reading something like this: —

IMPORTANT NOTICE.

If a baby's eyes RUN WITH MATTER and LOOK RED a few days after birth, take it AT ONCE to a doctor. Delay is DANGEROUS, and ONE EYE or BOTH EYES may be destroyed if not treated IMMEDIATELY.

These should be distributed as widely as possible; and the bread thus cast upon the water will be gathered, not many days hence, in the saving of many eyes which would otherwise have been shut out forever from the glorious light of heaven.

THE END.

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